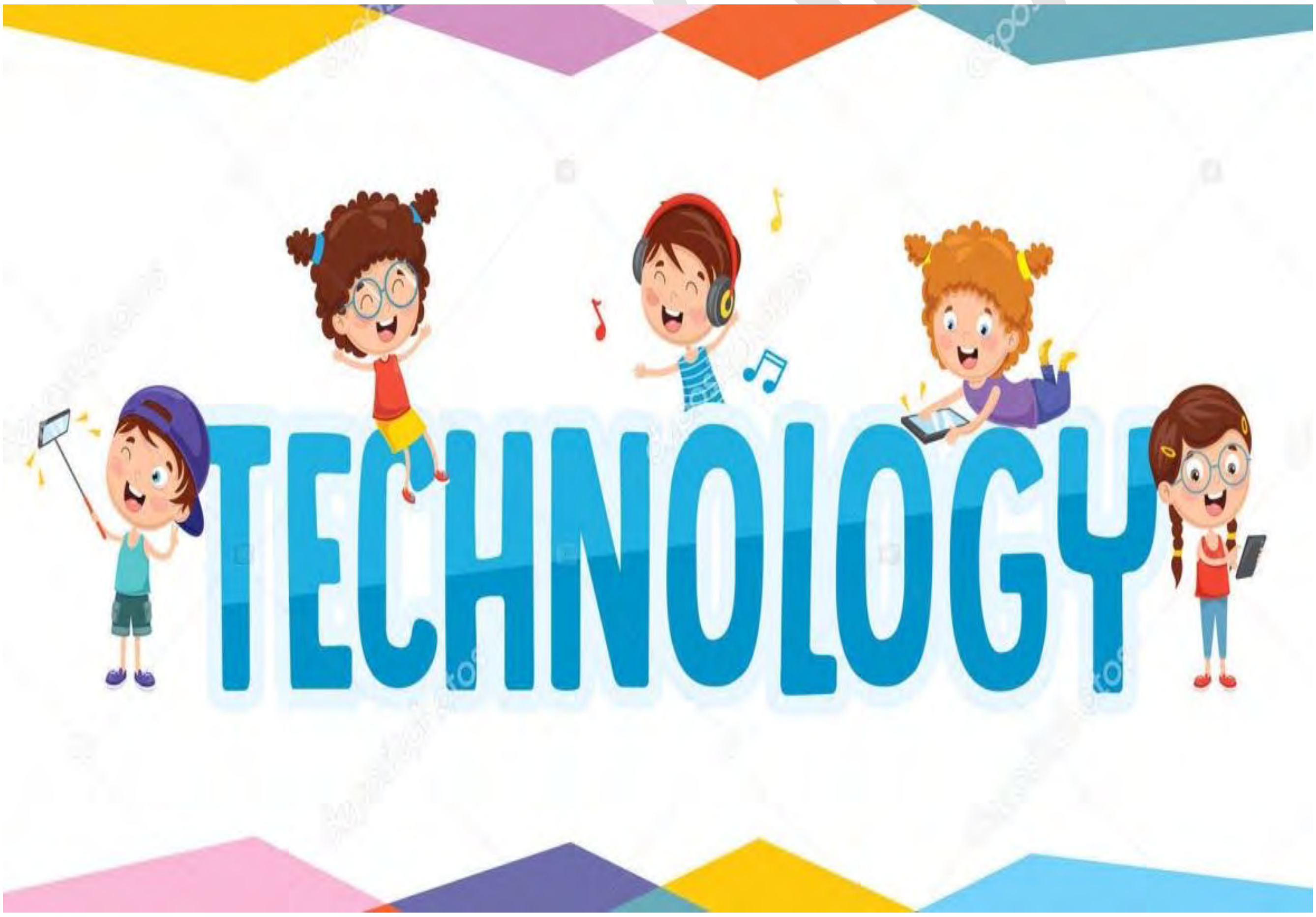
Geel2000 Language Schools

Computer Department

ICT Primary 6

First Term



Name : ....

Class : ....

Theme 1

Lesson1

Explorer in Action

Mr .kartik sawhney

- He is a National Geographic and computer expert who uses technology to help people of determination
- He studies focused on artificial intelligence and human –computer interaction

Mr. sawhney 's applications

- They provide access to visual content t the blind and visually impaired
- His app converts graph into audio frequencies
- It allows the listener to hear the difference in information in the graph

I stem website

it's a platform that provides software that changes digital texts into a format that can be easily used by the blind and visually impaired

- A person who can't read a text might upload that text to the I _stem website
- The software converts the file into a word document
- The person receives the converted document and listens to the text using a screen reader which automatically rea text aloud

The I stem platform

- The I – stem platform include mentorship and employment opportunities for people of determination
- This is achieved by working with government, technical universities and corporations

- Supported by UNICEF, Microsoft and the Nation Geographic Society among other other partner organizations, the initiative makes the services and venues of the organizations more accessible
- People of determination can get help from volunteer mentors it writing resumes preparing for job interviews and getting answers to career related questions .

Egypt supports people of determination in many settings

- To assist the visually impaired, the Taha Hussein library in the new Bibliotheca Alexandria has scanners with special software that converts printed text into audio
- Scholarships and special opportunities are offered to gifted individuals, such as “The Miracle Child “Rania Saleh who is a talented computer programmer with Down Syndrome
- In 2022, Egypt launched several initiatives to empower Egyptian people of determination
- They guide organization to integrate employees of determination in the workforce and create job opportunities
- In addition, the ministry of Manpower is developing programs that educate and train people of determination for the job market

Mobile phone

- Using a mobile phone can be difficult for people with a hearing impairment
- However, there are apps that use speech _to text technology to make communication by mobile phone easier
- If the hearing _impaired person has speech problems, he or she can type instead
- The text delivered to the other person as realistic speech
- One such app is called Roger voice
- Hearing _ impaired people can download and install the app on a smart phone, but the people who receive the calls don’t need to install it, nor do they need to have a smart phone
- Roger voice has been download by over 50.000 people worldwide

<u>There are many websites and apps that help people of determination. here are some</u>

1. Accessnow.com

   It provides information and resource related to accessibility for people with disabilities

2. Bemyeyes.com

It is a website and mobile application that aims to connect blind or visually impaired with sighted volunteers through video calls

<u>Exercise</u>

<u>Choose the correct answer from a,b,c or d</u>

1. Mr. kartik sawhney is a/an …………….. at national Geographic organization
   a. Ecologist   b. biologist   c. expert   d. doctor
2. Mr .kartik sawhney used ……………. to help people of determination
   a. Technology   b. construction tools
   c. writing tools   d. paint tools
3. Mr.sawhney creates application that allow ………….. to access visual content
   a. hearing impaired people   b. normal people
   c. blind and visually impaired people   d. none of them
4. Mr. sawhney has been able to create application that convert ……….. into audio frequencies
   a. Writing   b. sound   c. graph   d. symbol
5. The ………………… offers software that convert digital texts into a format that can be easily used by blind and partially sighted people
   a. word press   b. I- stem platform   c. EKB   d. google chrome
6. A person who cannot read text can upload it to the I -Stem platform and then read it using the …………………
   a. keyboard   b. speaker   c. screen reader   d. printer
7. Rania Saleh is a/an ………….. with down syndrome
   a. Export   b. computer programmer   c. doctor   d. teacher

Lesson 2
Computer network devices

Computers need different network connection devices to transfer data

Device name	Role of device
Modem 	• **It's a device that connect s a local area network (LAN) to the internet** • **It converts the signal from the internet service provider (ISP) which transform into a digital signal that can be read by device**
Switch 	• **They can send data to a specific device over a network which helps to make connections easier and faster** • **Switches are intelligent**

Making connections

- Wired network use physical wiring and cables which are plugged into port on devices
- Wireless network connects without wiring (wireless or Wi-Fi)

Artificial intelligence (AI)

- It is a comprehensive term for computer applications that perform complex tasks that simulate the thinking and performance of the human element, such as the ability to learn and reason
- By providing these technologies with information and knowledge related to a subject, and possible answers to all possible questions, the machine can give answer to data provided, such as writing an article on a topic and inquiring about historical events and their sequence
- **AI** works to imitate sound when provided with the tone of voice of an actual human being

Exercise

Choose the correct answer from a,b,c or d

1. ………………………………. network connect without wiring
    a. Historical b. Imitate c. wireless d. complex
2. ……………. are group of devices or things that are connected to each other for a common purpose
    a. Explorers b. networks c. computers d. keyboard
3. ……………… Converts the signal from the internet services provider (ISP) into a digital signal
    a.port b. modem c. router d. switch
4. ……………….. performs complex tasks that simulate that thinking and performance of the human element
    a. VR b. AI c. AR d. ICI
5. A………………… is a device that connects a local area network (LAN) to the internet
    a. Modem b. laptop c. router d. server
6. The abbreviation of artificial intelligence is ………….
    a. ALT b. IA c. AI d.AR

Put (✓) in front of correct sentence and (×) in front of the wrong one

1. Computer network connect computers with each other, to share important information of data ( )
2. Devices can be connect without wiring (wireless or Wi-Fi) ( )
3. Switches help to make connections easier and faster ( )
4. VR works to imitate sound when provided with the tone of voice of an actual human being ( )

Lesson 3
Technology and artificial intelligence (AI)

1. Virtual reality (VR):-

Is a virtual 3 _D environment that allow users to explore and interact with the surrounding, as if were reality.

To experience VR

- Users often wear a VR headset that blocks out the real world and provides view that immerse the user in another word
- In the classroom, VR can take you to a world where insects and atoms are bigger than you, so that you can study them closely
- It can take you a museum thousands of miles away ,or to a historical site hundreds of years ago

2. Augmented reality (AR)

AR combines the real world with a virtual world by adding image using computers

❖ Augmented reality can be done through
1. A smartphone camera
2. A tablet

❖ This will show a 3_D model of what the real world looks like:

- Students in a math class can point their smartphone camera at a flat surface and project a 3_D image like a cube or cylinder onto the surface, as if the figure is in front of them
- AR helps students become active participants in learning and makes learning more memorable

3. Artificial intelligence (AI)

- AI is the e ability of the computer to think, learn and deduce
- The computer learns by analyzing the available examples
- For examples, it predicts the word you will write from words you have written previously
- AI is used to unlock your phone with facial recognition

How can futuristic technology improve everyday life?

- It can improve the lives of people of determination
- For example, visually impaired people can use AR to see their family members up close
- Disabled individuals can use visual assistant powered by AI to accomplish every task such as:

1. Making phone calls
2. Navigating their computer using their voice or sign language

Virtual reality (VR)	Augmented reality (AR)	Artificial intelligence (AI)
A VR online tour of the tomb of king Tut , that allows you to “walk “ through the tomb	An AR app shows you how new furniture will look in your house	A robot vacuum uses AI to avoid furniture and stirs

Exercise

1 Choose the correct answer from a, b, c or d.

1. .... feel futuristic, but they are already being used in education and everyday life.
   a. Augmented reality
   b. Virtual reality
   c. Artificial intelligence
   d. all of them

2. .... combines the real world with a virtual world by adding images using computers.
   a. Augmented reality
   b. VR
   c. Artificial intelligence
   d. both (a) and (b)

3. This can be done through a smartphone camera or a tablet and will show a .... of what looks like the real world.
   a. 3-D model
   b. 2-D model
   c. 4-D model
   d. 5-D model

4. .... helps students become active participants in learning and makes learning more memorable.
   a. RV
   b. AR
   c. VR
   d. AI

5. .... is a virtual 3-D environment that allows users to explore and interact with the surroundings, as if it were reality.
   a. RV
   b. AR
   c. VR
   d. AI

6. .... is used to unlock your phone with facial recognition.
   a. AI
   b. AR
   c. VR
   d. 3D

7. VR Users often wear a .... that blocks out the real world and provides views that immerse the user in another world.
   a. headphone
   b. headset
   c. VR headset
   d. none of them

8. Augmented reality can be done through a ....
   a. tablet
   b. computer
   c. hardware
   d. disk

9. In the classroom, ... can take you to a world where insects and atoms are bigger than you, so that you can study them closely.
   a. Augmented reality
   b. Virtual Reality
   c. VR
   d. both (b) and (c)

10. A/An .... help disabled individuals through using virtual assistants to accomplish everyday tasks.
    a. augmented reality
    b. virtual reality
    c. artificial intelligence
    d. none of them

2 Put (✓) in front of the correct sentence and (×) in front of the wrong one.

1. Using AR, students in a math class can point their smartphone camera at a flat surface and project a 3-D image like a cube or cylinder onto the surface. ( )
2. Using windows helps students become active participants in learning and makes learning more memorable. ( )
3. Users often wear a normal headphone that blocks out the real world and provides views that immerse the user in another world. ( )
4. Artificial intelligence (AI) is the ability of the computer to think and learn. ( )
5. Futuristic technologies cannot improve the lives of people of determination. ( )
6. From the uses of AR, someone with a visual impaired can see their family members up close. ( )
7. An AR app shows you how new furniture will look in your house. ( )
8. Disabled individuals can use virtual assistants to make phone calls. ( )

3 Read and write the name of app or tool.

1. Abbreviation of AI (................)
2. Abbreviation of VR (................)
3. Abbreviation of AR (................)
4. It is the ability of computer to think, learn and deduce. (................)
5. It blocks out the real world and provides views that immerse the user in another world. (................)

Read and circle the correct one.

- From examples of **(AR – GPS)**, students in a math class can point their smartphone camera at a flat surface and project a **(5-D image – 3-D image)** like a cube or cylinder onto the surface, as if the figure is in front.

Lesson 4
Evaluating cutting _edge technology

Reliable cutting edge technology

1. Artificial intelligence (AI)
2. Augmented reality (AR)
3. Virtual reality (VR)

Benefits of cutting edge technology

- It has transformed life in ways that were unimaginable even a while ago

In education

- It Improve lives and inclusion I society for people of determination, such as the assistive technology smart glove that empower deaf people to translate their sign in real time to spoken or text output

Assistive technology

- It helps people of determination Such as: -

1. Screen magnification software
2. Hearing aids
3. Programs that turn speech to text and text to speech
   A visually impaired man uses a scanning and reading machine

User experiences

- It describes how to use the product and interact with it, and how to evaluate the experience
- It's often broken into different areas, and can be positive or negative

How to evaluate the product?

1. Accessible : Is it accessible for people of determination?
2. Credible : Are the company and its product trustworthy?
3. Desirable : Does the product meet your needs?
4. Findable : If there is an issue with the project or service can I find the solution .

5. **Usable :** Is it easy to use?
6. **Useful :** Is it practical?
7. **Valuable :** Does this product improve my life or help me learn?

Meeting need

- User experience is interlinked with the development or products and services
- Cutting _edge assistive is incredibly varied, but the goal is the same _to improve someone 's independence and consequently, inclusion in society

Exercise

1 Choose the correct answer from a, b, c or d.

1. .... is the latest and most advanced version of a service or product.
   a. Augmented reality
   b. Cutting-edge technology
   c. Artificial intelligence
   d. Assistive technology

2. .... helps people of determination, for example, screen magnification software and hearing aids.
   a. Augmented reality
   b. Cutting-edge technology
   c. Artificial intelligence
   d. Assistive technology

3. Screen magnification software, hearing aids, and programs that turn speech to text and text to speech are examples of ....
   a. augmented reality
   b. cutting-edge technology
   c. assistive technology
   d. artificial intelligence

4. Artificial intelligence (AI), augmented reality (AR), and virtual reality (VR) are examples of ....
   a. augmented reality
   b. cutting-edge technology
   c. artificial intelligence
   d. assistive technology

5. Smart gloves that empower deaf people to translate their signs in real time to spoken or text output considered ....
   a. augmented reality
   b. cutting-edge technology
   c. assistive technology
   d. artificial intelligence

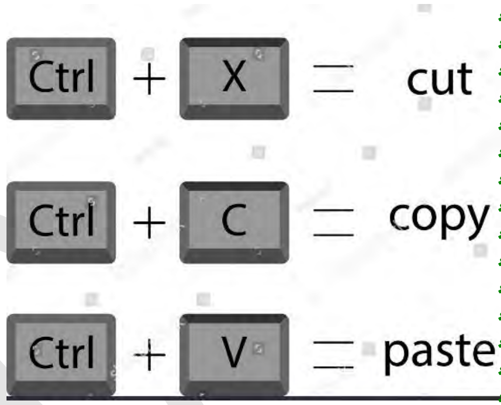
6. .... describes how people use the product and interact with it, and how they evaluate their experiences.
   a. User experiences
   b. Meeting needs
   c. Both of them
   d. None of them

7. .... categories are ways of technology evaluation.
   a. Accessible
   b. Desirable
   c. Findable
   d. all of them

Lesson 5:
Digital research skills

Useful digital editing tools

Using keyboard shortcuts in word processing



Copy, paste and cut are some of the most commonly use word processing command and are very useful when coping, pasting or cutting text, information or image into a word processing file

Digital search tools

1) search engines

- They help people to search internet websites based on the key words and phrases
- They're user _friendly, very fast, and often result in many results
- Use your evaluation skills to ensure the content you select is credible and accurate

2) Databases

- They are a collection of information which are typically stored in a computer system and can be accessed for free through your school
- You can search for information from magazines and newspapers through the databases on the computer in school library
- A database is good place to search
- Example of database (EKB)
  - ❖ The EKB covers many subject
  - ❖ The result will be credible and accurate

3) library catalogs

- a library catalog is a database which includes all the items owned by a library
- a library catalog search may include recently published books, including e-books with the most recent research about a subject such as the catalog of the library of Alexandria
- you can use the library s website on the internet through that link
  http:/www.bibalex.org

<u>conducting a database search</u>

- when you search any database, use a key word search
- review the results for subject heading and redo the search with those terms
- you can use other database field to narrow a search , such as (journal title _ author)
- limiting a search range by specifying dates will help you find the most up-to-date research

Exercise

1 Choose the correct answer from a, b, c or d.

1. .... are some of the most used word processing commands.
   a. Copy
   b. Paste
   c. Cut
   d. All of them
2. .... can help people to search internet websites based on the keywords and phrases.
   a. Search engines
   b. Database
   c. Library catalogs
   d. Google chrome
3. A library catalog is a/an .... which includes all items owned by the library.
   a. heading
   b. engine
   c. database
   d. subject
4. .... are collections of information which are typically stored in a computer system and can be accessed, for free through a school or library.
   a. Search engines
   b. Databases
   c. Library catalogs
   d. Google chrome
5. You can search for information from magazines and newspapers through the ....
   a. search engines
   b. databases
   c. library catalogs
   d. Google Chrome
6. The .... is an example of a general database which covers many subjects.
   a. Facebook
   b. Twitter
   c. EKB
   d. Instagram
7. The EKB results are credible and ....
   a. inaccurate
   b. narrow
   c. accurate
   d. unclear
8. To get useful search results and to narrow your search you can ....
   a. search by author name
   b. search title of the journal
   c. search by specifying dates
   d. all of them
9. A .... is a database which includes all the items owned by a library.
   a. search engine
   b. database
   c. library catalog
   d. Google Chrome

2 Put (✓) in front of the correct sentence and (×) in front of the wrong one.

1. A library catalog is a database which includes all the items owned by a library. ( )
2. There is only one way to get useful search results and to narrow your search you can. ( )
3. Search engine is a good place to search for information from magazines and newspapers. ( )
4. Databases are collections of information which are typically stored in a computer system. ( )
5. When doing research via internet, use your evaluation skills to ensure the content you select is credible and accurate. ( )

3 Complete the sentences with the appropriate words in brackets.

(Databases – Search engine – paste – library catalogs)

1. .... help people to search internet websites based on the key words and phrases.
2. .... are a collection of information which are typically stored in a computer system and can be accessed, for free, through a school or library.
3. A .... is a database which includes all the items owned by a library.
4. Copy, ... and cut are some of the most commonly used word processing commands.

4 Read and correct words between brackets.

1. **(Databases)** help people to search internet websites based on the key words and phrases. (................)
2. **(Search engine)** is a database which includes all the items owned by a library. (................)
3. **(Search engine)** is a good place to search for information from journals, newspapers, and reference books. (................)

Lesson 6
Mobile Devices

types of mobile devices

1) Smartphones	Can be used to surf the web and check email ,similar to pcs .they often have high _quality ,cameras ,speakers and screen resolution
2) Tables	
3) E_readers	Look like tablets , but are mainly used for reading book

Mobile devices features

- These handheld computers are portable and can access the internet
- They can be held in landscape or portrait mode, laid flat, and connect to other devices
- Many mobile devices function by touch

Mobile devices and learning

Mobile devices offer higher engagement levels for students and extend learning beyond the classroom for example

1) Creating short videos or taking photos for projects
2) Scanning QR codes to access content _related video, audios and texts created by the teacher, and the students themselves
3) Some people say that having such easy access to any information has decreased thinking skills, social interaction and excessive use of mobile device for social or recreational reasons is another potential problem
4) There is a problem associated with the small size of the screens: reading text and viewing graphics is complex and difficult

Providing solution with cutting   edge technology

- Cutting _edge technology installed on mobile devices is providing new solution
- It can provide people of determination with educational services at home
- A speech assistance app can help a non _verbal students participate in a class
- Assistive software on tablets and smartphones can help people of determination in the workplace to manage time and tasks

Exercise

1 Choose the correct answer from a, b, c or d.

1. .... are types of mobile devices.
   a. Smartphones
   b. Tablets
   c. E-readers
   d. all of them
2. .... surf the web and check email, similar to PCs.
   a. Smartphones
   b. Tablets
   c. both (a) and (b)
   d. E-readers
3. .... look like tablets but are mainly used for reading books.
   a. Smartphones
   b. Tablets
   c. PC computers
   d. E-readers
4. ....often have high-quality cameras, speakers, and screen resolution.
   a. Smartphones
   b. Tablets
   c. both (a) and (b)
   d. E-readers
5. These handheld computers (mobile devices) ....
   a. are portable
   b. can access the internet
   c. are held in landscape or portrait mode
   d. all of them
6. Scanning QR codes to access content-related videos, audios, and texts is one of the advantages of using mobile phones in ....
   a. writing
   b. education
   c. traveling
   d. playing games
7. .... installed on mobile devices is providing new solutions.
   a. Cutting-edge technology
   b. Gaming apps
   c. Assistive technology
   d. None of them
8. .... can help a non-verbal students participate in a class.
   a. Whatsapp
   b. Facebook app
   c. Speech assistance app
   d. Telegram app

2 Put (✓) in front of the correct sentence and (×) in front of the wrong one.

1. One of the disadvantages of the mobile is the difficulty of connecting to the internet. (   )
2. Many mobile devices function by touch. (   )

3. Mobile devices offer higher engagement levels for students and extend learning beyond the classroom. ( )

4. Scanning QR codes to access content-related videos, audios, and texts isn't useful in education. ( )

5. Small screens can be a problem of reading texts and viewing complex graphics difficult. ( )

6. Without cutting-edge technology products, people of determination face challenges accessing education, healthcare, and employment. ( )

7. Assistive software on tablets and smartphones can't help people of determination. ( )

B Complete the following sentences with the appropriate words in brackets.

(Assistive software - Tablets and smartphones - Mobile devices - Cutting-edge technology)

1. .... offer higher engagement levels for students and extend learning beyond the classroom.
2. .... surf the web and check email, similar to PCs.
3. .... can help people of determination with educational services at home.
4. .... on tablets and smartphones can help people of determination in the work place to manage time and tasks.

Read and correct words between brackets.

1. Small screens can make reading texts challenging and viewing complex graphics (easy). (................)
2. (Assistive technology) installed on mobile devices is providing new solutions. For example, this technology can connect homebound individuals with their educational provider. (................)
3. Scanning (AR codes) to access content-related video, audio, and texts is one of the advantages of using mobile phones in education. (................)

Lesson 7
Operating System

An operating system includes accessible devices such as:

1) Screen readers
2) Magnifiers

- It runs a computer s software and hardware, and allows a user to communicate with the computer easily
- Most computer's come pr_loaded with an operating system
- Microsoft windows is on most computers worldwide
- Apple computers run on mac OS

Mobile operating systems

Mobile devices have mobile operating systems

- The most popular mobile Oss are android, and apple iOS, which is used on iPhone and iPad
- Android uses open source software, which means a person can change and read the programming code
- Apple iOS is closed; it can't be seen or change by the public
- Both android and iOS perform the same basic functions, such as messaging, web access, video chat and touch function

Device type	Operating system
iOS	The operating system used on apple mobile devices
Windows	The operating system used on Microsoft PCs
Android	The operating system used on mobile devices other than apple products
macOS	The operating used on apple PCs

Cutting _edge operating systems

Other types of operating systems power different type of cutting _edge technologies (for example)

- The Robot operating system (ROS) is an open _source used for building robot application
- And there are multiple operating systems powering self-driving cars, including those developed by apple car play and windows TM automotive as well as individual car companies

Programming language

Instructions to a computer are given in code

- Over time, programming language have evolved from simple machine language (binary 0,1) to high level human like language
- Computer language often share similarities, so once you learn one, it is easier to learn other
- Programming language are usually open source, anyone can see, modify or distribute the code
- Programmers use hypertext markup language (**HTML**)to create web page

  HTML

  Is commonly chosen for website creation because it is easy to learn and to use

- It allows creators to add elements such as text, link, image, audio and even videos to their web pages
- It easy to make change and it is compatible with all the major web browser

Exercise

1 Choose the correct answer from a, b, c or d.

1. A/An .... is the software that manages computer's functions.
   a. operating system b. Windows Explorer
   c. e-readers d. Google Chrome
2. 🕮 .... is the operating system functions.
   a. Runs a computer's software b. Runs a computer's hardware
   c. Open - source. d. both a and b
3. Most computers come pre-loaded with a/an ....
   a. operating system b. Windows explorer
   c. e-readers d. Google Chrome
4. 🕮 .... computers run on macOS.
   a. Apple b. Ipad c. Android d. Windows
5. The most popular mobile OSs are ....
   a. Android b. Apple iOS c. both a and b d. Windows
6. .... uses open-source software.
   a. Android b. Apple iOS c. Both (a) and (b) d. Windows
7. 🕮 .... means a person can change and read the programming code.
   a. Open-source software b. Closed-source software
   c. Both a and b d. None of them
8. Apple iOS is ....
   a. open-source software b. closed-source software
   c. both a and b d. none of them
9. .... is open-source software used for building robot applications.
   a. ROS b. RES c. OSR d. OCR
10. .... refers to instructions to a computer that are given in code.
    a. ROS b. Programming Language
    c. Operating system d. Both a and c

2 Put (✓) in front of the correct sentence and (×) in front of the wrong one.

1. Operating system is used for managing computer's functions. (   )
2. Android runs on mac devices. (   )
3. 🕮 An operating system includes accessible devices such as printer scanner. (   )

4. Apple computers run on windows operating system. ( )

5. The most popular mobile OSs are Android and Apple iOS. ( )

6. Microsoft Windows runs the most computers worldwide. ( )

7. Apple computers run on macOS. ( )

8. Mobile devices have mobile operating systems. ( )

9. Windows is open-source software for building robot applications. ( )

10. HTML is commonly chosen for website creation. ( )

3 Match from column (A) with the suitable in column (B).

(A)		(B)
1. macOS	☐	a. The operating system used on Apple mobile devices.
2. iOS	☐	b. The operating system used on Microsoft PCs.
3. Android	☐	c. The operating system used on mobile devices other than Apple products.
4. Windows	☐	d. The operating system used on Apple PCs.

4 Read and write the name of the app or tool.

1. Software that manages a computer's functions, such as memory, drives, printers, and other devices. (...............)
2. It is an open-source software used for building robot applications. (...............)
3. The most popular mobile OSs and it uses open source software. (...............)

5 Read and circle the correct one.

1. Both Android and iOS perform the **(same - different)** basic functions, such as messaging, web access, video chat and touch function.
2. Programing languages are usually **(open - closed)** source. Anyone can see, modify, or distribute the code.

Lesson 8
website Design

Hyper Text Markup Language (HTML)

- It's the standard programming language used to create web pages
- It describes the structure of a web page and consists of series of element

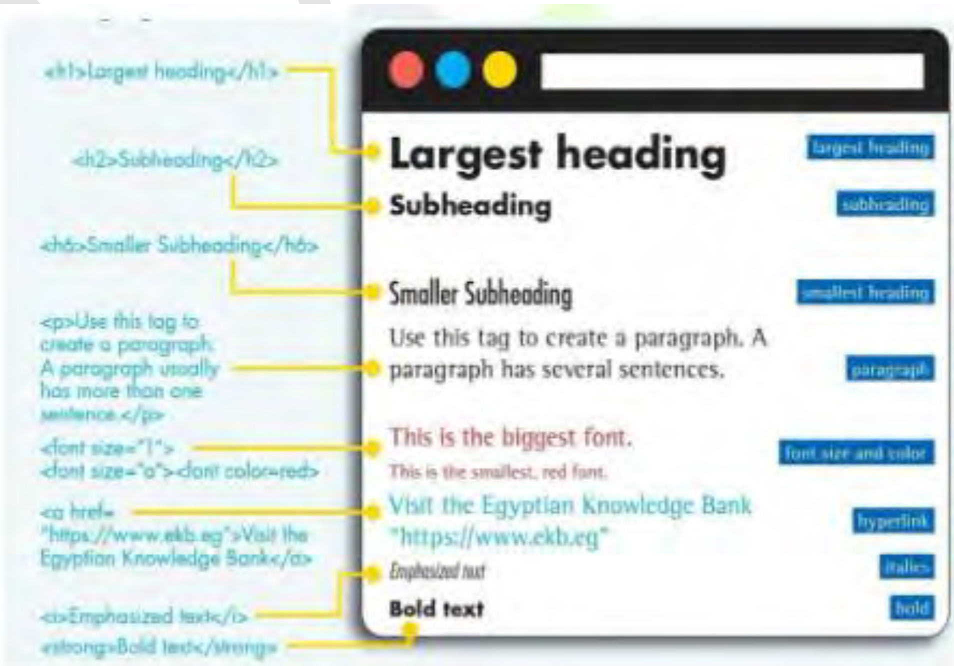
The building blocks of web pages are:

- Heading
- Paragraph
- Links
- Images

Web browser read HTML document and display the content according to the HTML tag

Tag have three main parts

- An opening ta
- The content
- A closing tag



Identify these tag

Large heading	large heading
Subheading	subheading
Smaller subheading	smaller subheading
Paragraph	= to create paragraph = ending of paragraph tag
Font size	<font size ="1" > ,<front size ="7">
Font color	<font color = red ><font color ="red">
Hyperlink	visit the Egyptian knowledge bank
Emphasize text (italic)	<i> emphasized </i>
Bold text	 bold text

Exercise

1 Choose the correct answer from a, b, c or d.

1. The abbreviation of Hyper Text Markup Language is "..............".
   a. HTML b. HTLM c. E- HTMM d. THML
2. .... is the standard programming language used to create web pages.
   a.«=img src> b. MacOS c. OSs d. HTML
3. HTML describes the structure of a web page and consists of a series of elements such as ....
   a. headings b. paragraphs c. links d. all of them
4. .... read HTML documents and display the content according to the HTML tag.
   a. Web browsers b. MacOS c. E-reader d. Android
5. The HTML tag <p>.....</p> refers to ....
   a. largest heading b. subheading
   c. Smaller subheading d. create a paragraph
6. The HTML tag <h1>.....</h1> refers to ....
   a. largest heading b. subheading
   c. smaller subheading d. create a paragraph
7. The HTML tag <h2>.....</h2> refers to ....
   a. largest heading b. subheading
   c. smaller subheading d. create a paragraph
8. The HTML tag <h6>.....</h6> refers to ....
   a. largest heading b. subheading
   c. smaller subheading d. create a paragraph
9. The function of <i> ... </i> is ....
   a. largest heading b. emphasized text
   c. change text to bold d. font color
10. The function of <a> ... is ....
    a. create hyperlink b. change text to underline
    c. change text to bold d. change text to italic
11. One of the following tags is false ....
    a. <i> ... </i> b. <a> ... c. ... d. <h1> ... </h1>
12. One of the following tags is true ....
    a. </i> ... </u> b. <a> ... c. ... d. <h1> ... </h1>

Theme 2

Lesson1
Explorer in Action

- Ms. Didi el-Behaedi is national geographic explorer who is working towards a PhD in Egyptian archaeology at the university of Chicago in the U.S.

she uses geospatial technologies in her work such as:

1.Geographic information system (GIS)

2.Remote sensing (GS)

3.Global positioning system(GPS)



*

These technologies assist in the geographic mapping and analysis of earth and human societies .

Ms. El-Behaedi

- She has worked as a remote sensing research consultant at **NASA**
- She has excavated several archaeological sites in the United States, France, and Egypt
- She has been working in Fayum governorate to learn how ancient Egyptians dealt with the decreasing amount of water in the lake
- Ms. El-Behaedi uses images from remote sensors to identify, map, and date the -ancient shores of the lake and find previously undiscovered ancient settlements

- She relied on remote sensing to build an app that simulated flooding at Abu Simbel Temple.
- Ms. El-Behaedi uses computers to find new archaeological sites by inputting data about known archaeological sites and programming the computer to look for similar sites. This is called “machine learning”.
- Ms. El-Behaedi has published several reports on her discoveries.
- She writes her texts, creates figures, and edits images using her laptop and iPad.
- She has published her work in trusted journals.

<u>To protect her information:</u>

1. She installs an antivirus software.
2. She uses strong passwords on her devices.
3. She frequently backs up her data.

- She conducts online research by reading articles in digital libraries and journals.
- She uses citations in her reports by writing down the names of books or sources from which she obtained information.
- If needed, she contacts individuals or institutions to ask for permission to publish images or infographics.
- She uses the knowledge and experience she has gained in her excavations in Egypt to learn more about the country's cultural heritage.

<u>Explore</u>

- Didi EL-Behaedi uses machine learning to locate unknown archaeological sites.
- She inputs data on size, form, elevation, and texture from known archaeological sites and has the computers search locations with similar features.

<u>Remote sensing</u>

- It collects data from places that are dangerous or otherwise impossible to access.
- It collects information about an object without touching it.

The technology is used in many fields, including

1.meteorology

2.geology

3.geography

- Remote sensors receive electromagnetic waves and transform them into signals. These signals are presented as numbers or images.
- Infrared remote sensors can penetrate earth, which is why they are used in archaeological excavations.
- Active sensors, such as radar, produce and send out electromagnetic waves, then measure those waves when they return from bouncing off an object.
- Radar can measure the speed of objects.
- They use radar to monitor the speed of vehicles.
- Remote sensors can be mounted on towers, helicopters, airplanes, and satellites.

Let's identify

Remote sensors

Sonar : used for mapping the ocean floor and finding fish

Radar : used in car for motion detection

Exercise

1 Choose the correct answer from a, b, c or d.

1. Ms. Didi El-Behaedi is a/an .... in National Geographic.
   a. ecologist b. biologist c. explorer d. engineer
2. Ms. Didi El-Behaedi is working towards a PhD in Egyptian Archaeology at the University in the ....
   a. U.S b. UK c. France d. Egypt
3. The abbreviation (GIS) stands for ....
   a. Google Information system b. Geographic Information System
   c. Global Information system d. General Information system
4. Among the tools that Ms. Didi El-Behaedi relied on ....
   a. GIS b. RS c. both (a) and (b) d. none of them
5. Ms. El-Behaedi has excavated several archeological sites in ....
   a. United States b. France c. Egypt d. all of them
6. Ms. El-Behaedi uses computers to find new archeological sites by inputting data about known archeological sites and programming the computer to look for similar sites. This is called "...............".
   a. machine learning b. programming
   c. text typing d. video capture
7. Ms. El-Behaedi uses .... to write her texts, create figures, and edit images.
   a. machine learning b. laptop c. iPad d. both (b) and (c)

lesson 2
How to deal with electronic games ?

- Electronic games which are played over the internet with friends, can be a lot of fun to play.
- Electronic games can help to promote critical and creative thinking, and encourage teamwork
- Online games can be fun to play but they can impact health.

There are several disadvantages of electronic games

1. Physical dangers
2. Psychological dangers
3. Security dangers

Physical dangers

- Playing too often can affect your sleep cycle.
- It may keep you stimulated and prevent from falling a sleep.
- It can strain your eyes, cause back problems because you stay hunched over while playing, and cause headaches.
- There's also a danger of gaining weight because you may not be exercising or eating properly while playing electronic games.

Psychological dangers

- You may become anxious and depressed because :
- You feel lonely in the real world **Or** You are being bullied online.
  Electronic games can make some people aggressive, as some games promote violence.
- Electronic games can prevent some players from thinking rationally when facing situations.
- All of these factors can negatively affect your relationship with family and friends.

Security dangers

- Multiplayer games, in particular, can put your security at risk.
- If you share too much personal information, strangers may be able to access your name, email, phone number, and address.
- Large gaming communities are filled with cyberbullies.
- Hackers can cause your information to be leaked and viruses are easily spread.

Responsible gaming

You can limit the dangers you are exposed to by:

Only playing games and chatting with people you know and trust.

- Not using personal information in your username and passwords.
- Not using a webcam.
- You should accept limits that your parents set to prevent unhealthy gaming habits.
- Make sure that gaming does not replace real-life activities like spending time with your family, meeting friends, homework, maintaining a healthy diet, getting enough exercise or sleep.
- When you do encounter dangers, don't be afraid to tell your parents. They want to help you. That could include family discussions and increased supervision when using the internet.

Exercise

1 Choose the correct answer from a, b, c or d.

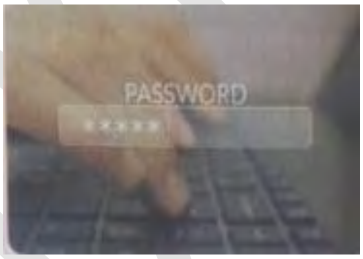
1. Electronic games help to promote critical and creative................ .
   a. thinking b. playing c. fun d. skills
2. Electronic games, can be a lot of fun, but there can be problems playing these games like ....
   a. cyberbullying b. hacking c. having fun d. both (a) & (b)
3. There are several disadvantages of electronic games like ....
   a. physical dangers b. psychological dangers
   c. security dangers d. all of them
4. Playing electronic games too often can affect your .... cycle.
   a. security b. sleep c. fun d. all of them
5. Electronic games can strain your .... and cause headaches.
   a. hand b. arm c. eyes d. leg
6. One of psychological dagners of electronic games is ....
   a. feeling lonely b. straining your eyes
   c. affecting your sleep cycle d. hackers attack
7. When playing games online, don't put personal information, such as ....
   a. your full name as your username b. your email, address
   c. both (a) and (b) d. none of them
8. Large gaming communities are filled with ....
   a. data b. cyberbullies c. information d. none of them
9. You can limit the dangers while playing electronic games through ....
   a. playing with people you know and trust
   b. not using a webcam
   c. not using personal information
   d. all of them

Lesson 3
Protecting yourself from digital theft

It is irresponsible to leave your devices at risk by not taking proper safety precautions. You have learned about the importance of strong passwords. Let's look at some more ways you can effectively protect your devices from theft.

Different features that you can use to protect your data

1.Passwords



Passwords with at least eight random letters, numbers, and symbols are the most secure.

2. multi-factor authentication (MFA)



MFA requires at least two ways of identifying yourself, usually through passwords, pins, and security codes or personal questions.

3.Fingerprint authentication



This type of authentication will scan your finger as a way of confirming it's you.

4.Facial recognition



Facial recognition software will scan your face using your device's camera. This way, only the user's face can be used to open their devices or devices' apps.

5.Full Encryption



Encryption protects your information so only you can access it on your device, as long as you have set your password.

<u>Companies have more responsibility than individuals to protect against data theft.</u>

- Companies in particular need to protect their websites and their customers' information. Therefore, Egypt has introduced the Data Protection Law to protect its citizens.
- The Data Protection Law requires companies to use strict security stands to protect their data.
- They must report immediately if they've been victims of data theft, and let their customers know immediately as well.

<u>It's important for individuals to report data theft.</u>

- You should report data theft.
- If you think your data has been compromised, be sure to tell a parent or trusted adult, they can let the proper authorities know.
- You should also tell family and friends you communicate with online.

Exercise

1 Choose the correct answer from a,b,c or d.

1. When creating password, you should use ....
   a. random letters
   b. random numbers
   c. symbols
   d. all of them

2. MFA requires at least .... ways of identifying yourself.
   a. two
   b. three
   c. four
   d. five

3. .... means Multi-Factor Authentication.
   a. MFB
   b. MFA
   c. MFC
   d. MFD

4. .... are ways of Multi Factor Authentication.
   a. Passwords
   b. Pins
   c. Security codes
   d. All of them

5. .... is a type of authentication which will scan your finger as a way of confirming it's you.
   a. Fingerprint Authentication
   b. Pins
   c. Security codes
   d. Multi Factor Authentication

6. .... will scan your face using your device's camera.
   a. Fingerprint Authentication
   b. Pins
   c. Facial Recognition
   d. Multi Factor Authentication

7. .... is the way only the user's face can be used to open their devices or devices' apps.
   a. Facial recognition software
   b. Full Encryption
   c. Both a and b
   d. Install new software

2 Put (✓) in front of the correct sentence and (×) in front of the wrong one.

1. You can protect your devices from theft by setting simple password. ( )
2. It is irresponsible to leave your devices at risk by not taking proper safety precautions. ( )
3. MFA stands for Multi-Factor Authentication. ( )
4. MFA authentication will scan your finger as a way of confirming it's you. ( )
5. Facial Recognition will scan your face using your device's camera. ( )
6. Multi-Factor Authentication requires at least three ways of identifying yourself. ( )
7. MFA can confirm your identity through pins and personal questions. ( )

Lesson 4
Cyber security

You have learned a lot about online safety precautions and strategies. Here is a brief recap.

These precautions are all examples of cyber security. These protect electronic devices and personal data from attacks.

- Use safe web browsers and install anti-virus protection on your devices.
- Only allow friends and family to view your social media.
- Use strong passwords and change them every three months.
- Verify websites that you frequent are real, safe, and age appropriate.
- Verify information you find to make sure it is accurate.
- Don't communicate with people you don't know or who make you feel uncomfortable.
- Don't share personal information online.

Types of cyber security threats

1.Malware

Malware

is the greatest cyber security threat.

- No matter how cautious you are, you may still get tricked.

Scareware

is a type of malware that pretends to be a virus alert.



- Scareware tells you to click on the link to help remove it, but the link is actually the virus !
- Mobile malware is also problematic and unsecured Wi-Fi, for example, can open you up to malware threats.

2.Spoofing



- Cyber criminals pretend to be a business, or a known person, in order to trick you to provide your information, or click on unsafe links.

- If you click on unsafe links, you are in danger of having your information compromised, money stolen, or viruses installed on your devices.

Examples of spoofing are a fake domain pretending to be a business, or an email account that has the name of a trusted service, or even personal acquaintances of yours.

How to deal with cyber security threats

- Stay calm, but take a swift action.
- Let your contacts know right away so they avoid opening anything suspicious. This way you can protect those you know from the same cyber threat.



Use anti-virus software to do a sweep of your computer and remove any viruses.

- Confirm your security settings are up-to-date.
- Change your passwords - your device password, email, social media, etc.
- It is best to change all your passwords, even if you think you have only been hacked on one particular account.
- Report the threat to a trusted adult. They can decide if further action is necessary, such as reporting it to an internet service provider, or getting the authorities involved.
- Creating a personal online safety plan can prepare you for potential future issues. These can include how you will protect your personal devices and information from cyber criminals.



Exercise

2 Put (✓) in front of the correct sentence and (×) in front of the wrong one.

1. One of the safety precautions when dealing with the internet is not to share personal information online. ( )
2. Using weak passwords and making it fixed is one of the safety precautions when dealing with the internet. ( )
3. From the safety strategies is verifying the websites that you frequent are real, safe, and age appropriate. ( )
4. Verifying information you find to make sure it is inaccurate is one of the safety precautions when dealing with the internet. ( )
5. Do not communicate with people you don't know or who make you feel uncomfortable. ( )
6. Use PowerPoint application to do a sweep of your computer and remove any viruses. ( )
7. From the ways of protecting your device from threats is to install anti-virus protection. ( )
8. It's a good idea to change all your passwords, even if you think you only have one account that's been hacked. ( )
9. It is not important that you report the threats to a trusted adult. ( )
10. Mobile malware is problematic. ( )

Lesson 5
Copyright and electronic financial trading

Copyright

Let's review what copyright (intellectual property rights) means.

Intellectual property

is someone's invention, creation or idea, that is protected by law from being copied by someone else, such as

1. an individual Or 2. a business

- Copyright includes written, visual, audio, video, and web material.

- **"Creative Commons"** refers to work that has been granted permission to share by the creator.
- Work in data libraries such as the Egyptian Knowledge Bank (EKB) is already approved for use.
- Egypt considers work in the public domain if the creator has been deceased for at least 50 years. No creator permission is required.

The concept of electronic financial trading

A stock exchange



- It is a market where buyers and sellers deal in units of company stocks.
- These stocks are called shares
- The Egyptian stock exchange allows citizens to invest in any market sector.

For Example:

Food Clothing Petroleum

- Smart investors will research multiple companies before deciding which company to invest in.
- They analyze markets to see which companies' stocks go up or down.
- They will also be checking to see the products or services offered, to see if it's a good fit for them personally.

Ways to stay safe while using electronic financial trading applications.

A broker



- This is a person who handles the buying and selling of shares.
- In traditional settings, an investor will have a broker.

Electronic financial trading (e-trading)

- It has made the process of buying and selling shares more efficient. It provides the investor with more authority.
- With the spread of the internet, electronic trading platforms are now common place.
- It allows the investor to make trades on their own through websites or applications.
- While investors can still use a broker, e-trading allows more independence and user-friendly options.
- These include robo-advisors - online applications that provide financial guidance and services.
- It provides access to many people who otherwise might not be able to invest.
- It is also easier and faster for different companies to trade with one another, no matter where they are located.

Exercise

1 Choose the correct answer from a, b, c or d.

1. Copyright includes written, ... material.
   a. visual b. audio c. video d. all of them

2. "................" refers to work that has been granted permission to share by the creator.
   a. Creative Commons b. Copyright
   c. Hacking d. All of them

3. Egypt considers work in the public domain if the creator has been deceased for at least .... No creator permission is required.
   a. 30 years b. 50 years c. 40 years d. 60 years

4. .... is someone's invention, creation or idea, that is protected by law from being copied by someone else.
   a. Intellectual property b. Hacking
   c. Creative Commons d. Machine learning

5. A ....is a market where buyers and sellers deal in units of company stocks.
   a. supermarket b. stock exchange c. trade d. copyright

6. In stock exchange, stocks are called ....
   a. parts b. pieces c. shares d. copyrights

7. Smart .... will research multiple companies before deciding which company to invest in.
   a. investors b. players c. teachers d. doctors

8. In traditional settings, an investor will have a ....
   a. player b. broker c. teacher d. doctor

9. .... has made the process of buying and selling shares more efficient.
   a. E-trading b. E-market c. E-learning d. E-mail

10. A .... is a person who handles the buying and selling of shares.
    a. broker b. student c. teacher d. doctor

Lesson 6
Cloud storage of files

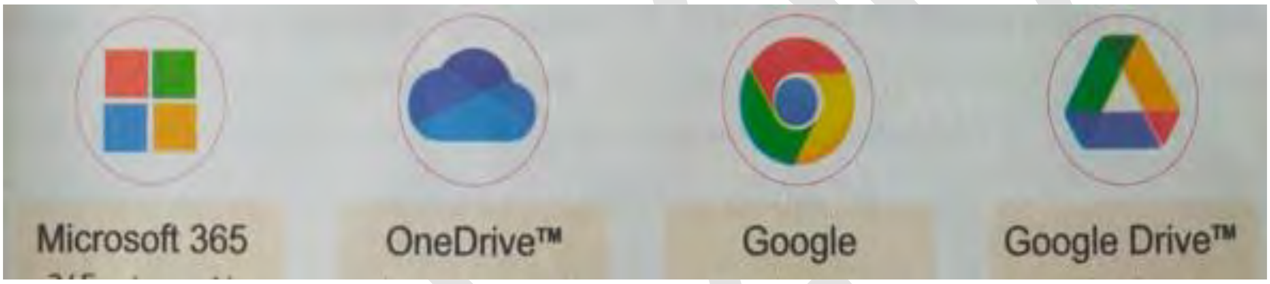
The concept of cloud computing

Cloud computing

is the on-demand storing, and accessing, of data and programs via remote servers on the internet.

- Cloud computing enables users to access files and data easily and conveniently from anywhere and at any time.

Examples:



Remote servers

- Connect users who are not on the local area network (LAN) to access and manage data, files, and applications via the internet.



The advantages and disadvantages of cloud computing.

Advantages

- It frees up space on your devices by using cloud storage services.
- It allows you to log in and access your files from multiple devices, as long as you have internet service.
- It provides a backup for your files.
- It provides an extra layer of security by offering password protected data storage and data encryption.
- It allows you to directly share files with authorized users.

Disadvantages

- It requires you to have an internet connection. If you lose your internet connection, you won't be able to access files that are only stored in the cloud.
- Cloud storage is often a fee-based service. If you want to store files, you will need to pay a fee -the more storage you require, the higher the fee you will pay.
- If the cloud service you are using is a victim of a data breach, you may become a victim as well, as your information may be compromised. However, while there is a small risk, cloud services are overall extremely safe and secure.

Data encryption

- It converts data into a code to prevent unauthorized user access.

A data breach

- It occurs when unauthorized parties gain access to confidential data and information.

<u>The role of cloud computing in storing files</u>

- Having a document management system allows you to organize your documents so it is quick and easy to find them.
- Create separate folders for different types of data like photos, videos, audio files, and documents.
- Separate school and personal information, with one folder for each.
- Label folders and subfolders clearly, so it's easy to find what you are looking for.
- Consider keeping separate folders depending on the file type, such as videos, photos, audio files, and text documents.

Strong passwords



- Create strong passwords for files and have security measures in place.
- Be sure to use a strong password for any account you have on a cloud storage platform, including Multi-Factor Authentication**(MFA)** for additional security.
- All the large and reputable cloud storage services offer **MFA**.

Exercise

2 Put (✓) in front of correct sentence and (x) in front of the wrong one.

1. Cloud computing provides an extra layer of security by offering password protected data storage and data encryption. ( )
2. Remote servers connect users who are using printers to access and manage data, files, and applications via the internet. ( )
3. Google and OneDrive™ are not cloud computing services. ( )
4. Cloud computing is the on-demand storing and accessing of data and programs via remote servers on the internet. ( )
5. Cloud storage is one of the cloud computing services. ( )
6. When using PowerPoint, we convert the data into a code to prevent unauthorized user access. ( )
7. For easy work on computer, create separate folders for different types of data. ( )
8. From the advantages of cloud computing is to have internet connection. ( )
9. Be sure to use a strong password for any account you have on a cloud storage platform. ( )

Lesson 7
Cloud computing applications

- Cloud computing is storing, and accessing, data or programs through the internet.

Microsoft 365 and Google Workspace



- Microsoft 365 and Google Workspace are the most popular software that deal with cloud computing applications. Both platforms include productivity apps and storage.
- Microsoft 365 offers a whole suite of productivity apps such as Microsoft Teams, Word, Excel, PowerPoint, its email platform, Outlook, as well as Microsoft 365 storage application OneDrive.



Microsoft 365

In summary, this platform provides everything you need.

Microsoft Word



- When you select Microsoft Word, as shown in the photo, it opens up a new blank document that allows you to draft ideas, a story, or an assignment.

PowerPoint



- Other applications like PowerPoint can also help you create a presentation and OneDrive can help you share work with your friends too.

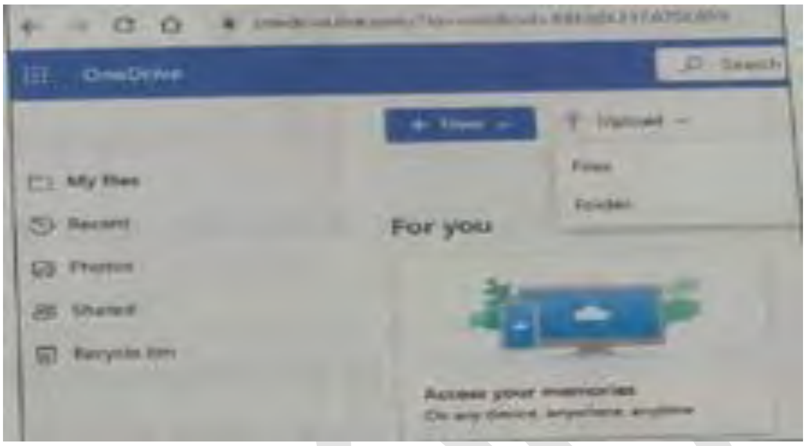
OneDrive



- OneDrive allows you to store, share, and access files from any device. It's very user-friendly.
- You upload your files and then click on the Share option to share with others.
- You can decide what level of access each person you share with gets – whether it's for viewing purposes only, or editing.

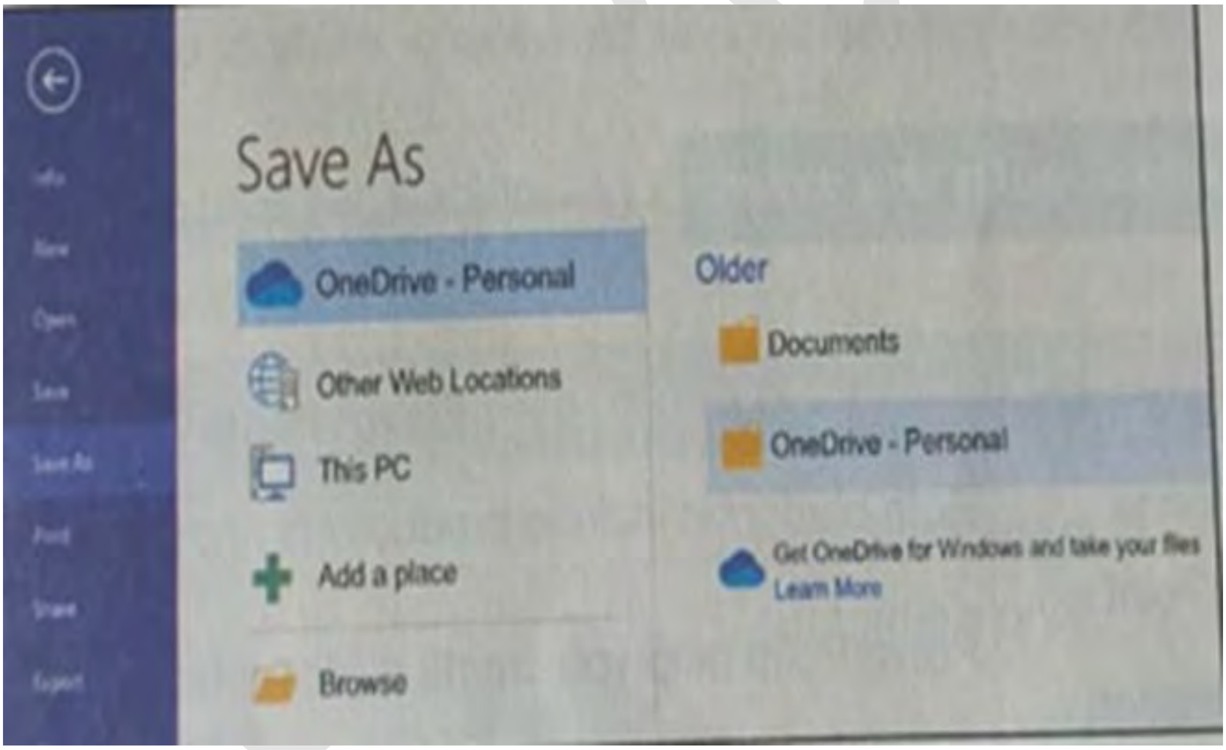
How to upload files or folders to OneDrive

1. In Chrome, sign in the Microsoft Office.
Select **OneDrive**.
2.Select **Upload**>Files or Upload>Folder.
3. Select **the files** or **folder** you want to upload.
4. Select Open or Select **Folder**.



How to save a file to OneDrive

1. Select **File** > **Save a Copy** > OneDrive -Personal/Company.
2.Select **Enter file name here** and type a name
3.Select **Save**



4. You will then see the file in your OneDrive, the next time you open the Office app

Exercise

1 Choose the correct answer from a, b, c or d.

1. .... are the most popular software that deals with cloud computing applications.
   a. Microsoft 365™ b. Google Workspace™
   c. both (a) and (b) d. none of them

2. .... is storing, and accessing, data or programs through the internet.
   a. Internet b. Switch c. Cloud computing d. Intranet

3. Microsoft 365 offers a whole suite of productivity apps such as ....
   a. Microsoft Teams™ b. Word c. Excel d. all of them

4. The Microsoft 365 storage application is ....
   a. OneDrive b. Word c. Excel d. PowerPoint

5. .... is used to create blank documents.
   a. Microsoft Teams™ b. Word c. Excel d. PowerPoint

6. We use .... to create presentations.
   a. Microsoft Teams™ b. Word c. PowerPoint d. Excel

7. .... app is used to browse mailing lists.
   a. Microsoft Teams™ b. Word c. PowerPoint d. Outlook™

8. .... allows you to store, share, and access files from any device.
   a. OneDrive b. Word c. Excel d. PowerPoint

9. While using the OneDrive app, you can decide what level of access each person you share with such as ....
   a. viewing purposes b. editing c. both (a) and (b) d. none of them

10. In OneDrive, you can upload ....
    a. files only b. files and folders
    c. folders only d. subfolders only

11. To save a file in OneDrive, select .... then save a copy.
    a. file menu b. edit menu c. view menu d. help Menu